Pediatric Software

for Microsoft® Windows®

User manual

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Chapter 1

Introducing the Pediatric Software

This chapter covers the following topics:

- About the Pediatric Software
- Pediatric Software features

About the Pediatric Software

The Pediatric Software provides a set of specific study and sub-study parameters as well as MUSICA processing parameters (MUSICA: Multi-Scale Image Contrast Amplification) optimized for pediatrics. With the Pediatric Software, the image processing features of the ADC Quality System are extended to pediatrics. The Pediatric Software is an add-on program to the ID Software, the IPD Viewer Software, and the QC Viewer Software.

The Pediatric Software User manual provides general and practical information on using the Pediatric Software. For full details on using the ID Software, the QC Viewer Software and the IPD Viewer Software, refer to the Reference manual or the online Help of the ID Software, the QC Viewer Software and the IPD Viewer Software respectively.

Pediatric Software features

The Pediatric Software permits you to perform pediatric studies with low radiation doses and optimized image quality. It has been developed for speed class 200/400 studies compliant with the '*European Guidelines on Quality Criteria for Diagnostic Radiographic Images in Paediatrics*'.

The Pediatric Software provides image processing parameters (MUSICA parameters) optimized for four age groups, covering all pediatric studies.

Chapter 2

Using the Pediatric Software

This chapter covers the following topics:

- Setting the age groups
- Setting the study parameters

Setting the age groups

The age groups for which optimized image processing parameters have been defined are listed below.

Age	Age group
0 - 1.5 yr	Premature babies/Babies
1.6 - 5 yr	Toddlers/Infants
6 - 12 yr	Schoolchildren
13 - 16 yr	Teenagers

You can identify the patient as belonging to a particular age group via the Study Group field in the Identification screen of the ID Software.

❖ *If your hospital is equipped with a Radiological Information System (RIS), your system administrator can develop an application which - based on the patient's birth date - automatically selects the appropriate age group in the Study Group field.*

Setting the study parameters

The development of the optimized image processing parameters (MUSICA parameters) was based on the following study parameters.

Parameters for automatic studies

❖ *The values listed below are only valid for studies performed with a tube filter of 3.5 mm Al and 0.1 mm Cu.*

Study type/ Sub-study type	With grid kV	Without grid kV	Speed class
Corpus			
Skull PA/ Skull LAT	67		400
Sinus	65		400
Spine LAT	60		400
Spine PA	65		400
Pelvis (6 m)		60	400
Pelvis	70		400
Thorax PA	90	68	400
Thorax LAT	110	73	400
Abdomen	68		400
Extremities			
Upper arm/ Upper leg	62	50	400
Hand/Foot		45	200

Parameters for manual studies

❖ *The values listed below are only valid for studies performed with a tube filter of 3.5 mm Al and 0.1 mm Cu.*

Study type/ Sub-study type	6 m kV - mAs	2 yr kV - mAs	6 yr kV - mAs	12 yr kV - mAs	15 yr kV - mAs	Speed class
Corpus						
Nose			55 - 1.2			400
Cavum			70 - 1.6	70 - 1.8		400
CWZ PA (grid)	90 - <1 at 1.3 ms		95 - <1 at 1.6 ms			400
CWZ LAT	70 - 1.2	70 - 1.4				400
Pelvis PA	60 - 5	70 - 6.4	70 - 8	70 - 16	70 - 40	400
Pelvis LAT					80 - 6.4	400
Thorax (small focus)			70 - 1.2	70 - 2	70 - 3.2	400
Abdomen				70 - 4		400
Skull (lateral exposure & grid)				65 - 5		400
Upper extremities						
Finger			50 - 3.2	50 - 5	50 - 5	200
Hand	50 - 5	50 - 7	50 - 8	50 - 8	50 - 8	200
Wrist		55 - 4/5	55 - 4/5	55 - 5.4	55 - 6.4	200
Wrist cast			60 - 6.4	60 - 10		
Lower arm		55 - 4/5	55 - 5.5	55 - 6.4/8	55 - 8/10	200
Lower arm cast			60 - 8/10	61 - 8/10	62 - 10/13	
Elbow		55 - 4	5 - 5	55 - 8	55 - 8/10	200

Study type/ Sub-study type	6 m kV - mAs	2 yr kV - mAs	6 yr kV - mAs	12 yr kV - mAs	15 yr kV - mAs	Speed class
Elbow cast			60 - 8	60 - 10/13		
Upper arm	50 -	55 -	55 -	60 -6.4	60 -	200
Upper arm cast				60 - 13		
Lower extremities						
Foot	50 - 5	50 - 5	50 - 6.4	50 - 8	50 - 8	200
Foot cast			55 - 8			
Ankle	55 - 5	55 - 6.4	55 - 8/10	56 - 8/10	57 - 10/13	200
Lower leg	55 - 6.4	55 - 8		55 - 10/13	56 - 10/13	200
Lower leg cast		60 - 8	60 - 8	60 - 16/20		
Knee	55 - 6.4		55 - 6.4/8	55 - 10/13	55 - 13	200
Upper leg		55 -	55 -	60 -	60 - 20	200
Upper leg cast		55 - 13		60 - 16		

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Printed in Belgium
Published by Agfa-Gevaert N.V., B-2640 Mortsel-Belgium
2276A GB 20010110

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